Amendments to the Claims

Claims 1-22 are pending in the present application. Please amend Claims 2 and 15 as set forth below. This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Original). A detection circuit for indicating a blown state or un-blown state of a fuse under detection, comprising:

a fuse detection circuit part having a fuse under detection, the fuse detection circuit part producing a fuse detection voltage corresponding to a detection current in the fuse under detection;

a reference circuit part for generating a reference voltage, the reference circuit part having a reference fuse substantially identical to the fuse under detection in its un-blown state; and

the reference voltage being between a fuse detection voltage corresponding to an un-blown state of the fuse under detection and a fuse detection voltage corresponding to a blown state of the fuse under detection, thereby distinguishing the blown state from the un-blown state.

Claim 2 (Currently Amended). The detection circuit of claim 1, wherein

the reference circuit part and the fuse detection circuit part having respective transistors for receiving a fuse detection enable signal, wherein said transistors enable and disable said reference circuit part and fuse detection circuit in response to said fuse detection enable signal ~~for receiving ground said fuse detection voltage when said fuse detection enable signal is in a disable condition~~.

Claim 3 (Original). The detection circuit of claim 1, wherein

the reference circuit part producing a bias voltage that is supplied to the fuse detection circuit part.

Claim 4 (Original). The detection circuit of claim 1, wherein

the reference fuse and the fuse under detection having substantially the same layout on a circuit board.

Claim 5 (Original). The detection circuit of claim 1, wherein

a current mirror having a first current mirror transistor in the reference circuit part connected to a second current mirror transistor in the fuse detection circuit part; and

the second current mirror transistor being smaller than the first current mirror.

Claim 6 (Original). The detection circuit of claim 5, wherein

the reference circuit part and the fuse detection circuit part having respective transistors receiving a fuse detection enable signal.

Claim 7 (Original). The detection circuit of claim 5, wherein

the first current mirror transistor supplying a bias voltage to the second current mirror transistor.

Claim 8 (Original). The detection circuit of claim 5, wherein

the reference fuse and the fuse under detection having substantially the same layout on a circuit board.

Claim 9 (Original). The detection circuit of claim 5, further comprising:

a comparator for comparing the reference voltage and the fuse detection voltage.

Claim 10 (Original). A circuit, comprising:

one or more fuse detection circuit parts each having a fuse under detection;

a reference circuit part having a reference fuse identical to each fuse under detection in their un-blown states;

the reference circuit part and each of the fuse detection circuit parts having respective current mirror transistors; and

the current mirror transistor in each of the fuse detection parts being smaller than the current mirror transistor in the reference circuit part.

Claim 11 (Original). The detection circuit of claim 10, wherein

the reference fuse and each fuse under detection having substantially the same layout on a circuit board.

Claim 12 (Original). The detection circuit of claim 10, further comprising:

each fuse detection circuit part producing a fuse detection voltage; and

each fuse detection circuit part having a comparator comparing the fuse detection voltage with a reference voltage produced by the reference circuit part.

Claim 13 (Previously Presented). A detection circuit for indicating a blown state or an un-blown state of a programmable fuse under detection, comprising:

a fuse detection circuit part having a fuse under detection;

a reference circuit part having a reference fuse substantially identical to the fuse under detection in its un-blown state; and

a comparator for comparing a reference voltage in the reference circuit part and a fuse detection voltage in the fuse detection circuit part to determine whether the fuse under detection is blown or un-blown, the reference voltage to be between a fuse detection voltage of an un-blown fuse under detection and a fuse detection voltage of a blown fuse under detection, thereby distinguishing a blown state from and un-blown state by comparison with the reference voltage.

Claim 14 (Original). The detection circuit of claim 13, further comprising:

a first current mirror transistor of the reference circuit part for generating a bias voltage;

a second current mirror transistor in the fuse detection circuit part for receiving the bias voltage, the second current mirror transistor being smaller relative to the first current transistor for the reference voltage to be between a fuse detection voltage of an un-blown fuse under detection and a fuse detection voltage of a blown fuse under detection, thereby distinguishing a blown state from an un-blown state by comparison with the reference voltage.

Claim 15 (Currently Amended). The detection circuit of claim 13, wherein

the reference circuit part and the fuse detection circuit part having respective transistors receiving a fuse detection enable signal, wherein said transistors enable and disable said reference circuit part and fuse detection circuit in response to said fuse detection enable signal ~~for receiving ground said fuse detection voltage when said fuse detection enable signal is in a disable condition~~.

Claim 16 (Original). The detection circuit of claim 13, wherein

the reference circuit part producing a bias voltage that is supplied to the fuse detection circuit part.

Claim 17 (Original). The detection circuit of claim 13, further comprising:

the reference fuse and the fuse under detection having substantially the same layout on a circuit board.

Claim 18 (Previously Presented). A method of detecting a blown state or un-blown state of a fuse under detection, comprising:

generating a fuse detection voltage in a fuse detection circuit part, the fuse detection circuit part having the fuse under detection;

generating a reference voltage in a reference circuit part, the reference circuit part having a reference fuse substantially identical to the fuse under detection in its un-blown state, the reference voltage to be between a fuse detection voltage of an un-blown fuse under detection and a fuse detection voltage of a blown fuse under detection, thereby distinguishing a blown state from and un-blown state by comparison with the reference voltage; and

comparing the reference voltage and the fuse detection voltage to determine whether the fuse under detection is blown or un-blown.

Claim 19 (Original). The method as recited in claim 18, further comprising:

generating a bias voltage in a first current mirror transistor of the reference circuit part;

supplying the bias voltage to a second current mirror transistor in the fuse detection circuit part, the second current mirror transistor being smaller relative to the first current transistor for the reference voltage to be between a fuse detection voltage of an un-blown fuse under detection and a fuse detection voltage of a blown fuse under detection, thereby distinguishing a blown state of the fuse under detection from an un-blown state of the fuse under detection by comparison with the reference voltage.

Claim 20 (Previously Presented). A method of making a fuse detection circuit, comprising:

fabricating a fuse detection circuit part having a fuse under detection;

fabricating a reference circuit part having a reference fuse identical to the fuse under detection in its un-blown state; and

fabricating a comparator for comparing a reference voltage in the reference circuit part with a voltage in the fuse detection circuit part to determine whether the fuse under detection is blown or un-blown, the reference voltage to be between a fuse detection voltage of an un-blown

fuse under detection and a fuse detection voltage of a blown fuse under detection, thereby distinguishing a blown state from and un-blown state by comparison with the reference voltage.

Claim 21 (Original). The method as recited in claim 20, further comprising:

manufacturing the reference fuse and the fuse under detection with substantially the same manufacturing process steps.

Claim 22 (Original). The method as recited in claim 20, further comprising:

manufacturing the reference fuse and the fuse under detection with substantially the same layout on a circuit board.